

We claim:

1. A device for protecting a motor vehicle against theft, comprising:
  - an Identification device holder which is connected via a first line to an energy supply and comprises a first switch,
  - a resistance network arranged in the first line of which the elements comprise a defined resistance encoding,
  - a second, controllable switch which is arranged to switch on the energy supply arranged between the energy supply and the resistance network, and
  - a control unit arranged in a motor vehicle, which comprises a diagnosis and evaluation unit which is connected to at least one tap of the resistance network and which, depending on the switch position of the second switch, evaluates the voltage drops over the elements of the resistance network and, depending on this, makes a distinction between a correct Access authorization, a fault in the energy supply or the first line, and an external manipulation of the identification device holder.
2. The device in accordance with Claim 1, wherein the second switch is arranged in the control unit.
3. The device in accordance with Claim 1, wherein the resistance network is embodied as a voltage divider.
4. The device in accordance with Claim 1, wherein the resistance network comprises at least one first resistor, which is arranged in the identification device holder, and at least a second resistor which is arranged in the control unit.
5. The device in accordance with Claim 1, wherein the resistance encoding of the elements of the resistance network is adjustable.
6. The device in accordance with Claim 1, wherein the diagnosis and evaluation circuit comprises a programmable unit, especially a microcontroller or a microprocessor.

7. The device in accordance with Claim 1, wherein the diagnosis and evaluation circuit and/or the control device comprises a memory unit in which the required voltage values assigned to the relevant resistance encoding are stored.
8. The device in accordance with Claim 1, wherein the control device comprises a control unit for control of the motor vehicle's starter and/or is connected with a control of the starter and/or the motor control of the motor vehicle.
9. The device in accordance with Claim 1, wherein the first and/or the second switch is/are embodied as a high-side switch.

10. A method for checking access authorization to a motor vehicle by means of an Identification device holder which is connected via a first line to an energy supply and comprises a first switch, a resistance network arranged in the first line of which the elements comprise a defined resistance encoding, and a second, controllable switch which is arranged to switch on the energy supply arranged between the energy supply and the resistance network, the method, in the event of a request for putting the motor vehicle into operation, comprises the steps of:
  - (a) Recording the voltage drops across elements of the resistance network for a closed and an open second switch, respectively;
  - (b) Comparing the recorded voltage drops with stored voltage values which correspond to relevant resistance encoding of the elements of the resistance network;
  - (c) Outputting an enable signal for starting the motor vehicle if the comparison reveals that the stored voltage values correspond to the relevant recorded voltage values.
11. The method in accordance with Claim 10, comprising the step of:
  - (d) Outputting a signal to the motor control and/or the starter control and/or the ignition control that putting the motor vehicle into operation will be blocked if the comparison reveals that the stored voltage values do not match the corresponding recorded voltage values and it is concluded from the recorded voltage values that there has been unauthorized short circuiting of the ignition or the starter.
12. The method in accordance with Claim 10, comprising the step of:
  - (e) Outputting an error signal to the vehicle user if the comparison reveals that the stored voltage values do not match the corresponding recorded voltage values and it is concluded from the recorded voltage values that there is a fault in the energy supply.

13. An anti-theft device for protecting a motor vehicle, comprising:
  - a resistance network arranged comprising elements with a defined resistance encoding and a first switch,
  - a second, controllable switch which is arranged to couple an energy supply with the resistance network, and
  - a control unit arranged in a motor vehicle, which comprises a diagnosis and evaluation unit which is connected to at least one tap of the resistance network and which, depending on the switch position of the second switch, evaluates the voltage drops over the elements of the resistance network and, depending on this, makes a distinction between a correct Access authorization, a fault in the energy supply or the coupling, and an external manipulation of the first switch and/or resistance network.
14. The device in accordance with Claim 13, wherein the second switch is arranged in the control unit.
15. The device in accordance with Claim 13, wherein the resistance network is embodied as a voltage divider.
16. The device in accordance with Claim 13, wherein the resistance encoding of the elements of the resistance network is adjustable.
17. The device in accordance with Claim 13, wherein the diagnosis and evaluation circuit comprises a programmable unit, especially a microcontroller or a microprocessor.
18. The device in accordance with Claim 13, wherein the diagnosis and evaluation circuit and/or the control device comprises a memory unit in which the required voltage values assigned to the relevant resistance encoding are stored.
19. The device in accordance with Claim 13, wherein the control device comprises a control unit for control of the motor vehicle's starter and/or is connected with a control of the starter and/or the motor control of the motor vehicle.

20. The device in accordance with Claim 13, wherein the first and/or the second switch is are embodied as a high-side switch.